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POLYVALENT SERUM.

The use of stock polyvalent vaccines and sera for any such disease as joint-ill always has obvious drawbacks. Considerable skill and knowledge, and access to a large variety of pathological material, are essentials for the production of such preparations. Given all these, a polyvalent vaccine or serum may answer well for the majority of cases; but it is not likely to do so for all. Probably no stock polyvalent vaccine or serum will ever be an ideal preparation in practice; but it is quite certain that some are useful already, and continued efforts to improve their production may make them much more so. For these reasons, Mr. Scott's report of the results of one polyvalent serum for joint-ill is valuable. It shows some successes along with, as might be expected, some failures; and the net result seems to indicate that the serum is well worth trying in any case not too far advanced. It also contains one remark upon prognosis which may prove to be a valuable guide in practice, and some suggestions for improving the serum that may be even more valuable. Treatment by polyvalent sera is a method still comparatively undeveloped. Its future possibilities are high; and they can only be fully developed by such co-operation between clinicians and the laboratory as is evidenced in this article.

ŒSTRUS LARVÆ IN THE PHARYNX.

Most practitioners have heard of the development of *Œstrus larvæ* in the equine pharynx; but probably few have regarded the occurrence as other than rare. Major G. T. Cannon's account of fifteen cases in horses of South African origin, which we published three weeks ago will have been suggestive to many. He remarks upon the probability of similar cases having occurred in the Army without their true cause being recognised; and this is equally applicable to civil practice.

In some parts of the world this localisation of of œstrus larvæ seems to be not uncommon—empirics in Russia, for instance, are said to be acquainted with it and treat it by detaching the larvæ with a brush. Neumann states that the larvæ concerned in these cases are "more especially if not exclusively" those of the *Gastrophilus hæmorrhoidalis*. In Major Cannon's cases the larvæ were those of the *G. pecorum*, a species presenting many resemblances to the better known *G. hæmorrhoidalis*. Both species exist throughout Europe; and it is possible that their lodgment in the pharynx and œsophagus may be more frequent than is usually supposed. Any careful reader of Major Cannon's account will recognise that it would be easy to treat such a case without suspecting its true cause; and perhaps the account will save some men from doing so.

A PRELIMINARY NOTE ON THE TREATMENT OF PYÆMIC ARTHRITIS—JOINT-EVIL—IN FOALS WITH POLYVALENT ANTISTREPTOCCAL SERUM.

By WILLIAM SCOTT, F.R.C.V.S., Bridgwater.

Early in the spring of this year Messrs. Park, Davis & Co., offered to place at my disposal an unlimited supply of their antistreptococcal serum for the experimental treatment of Joint-evil in foals. I willingly acquiesced—for a two-fold reason: (1) Joint-evil is the *bête noir* of foal life, and chemotherapy has, up to now, given practitioners poor results. (2) Whatever the laboratory data may be on any new line of treatment, the ultimate judgement of its merits or demerits must rest with, and come from the "clinical field."

Each case treated gave a true clinical picture of the disease, and in no case was there any collateral therapeutical line of treatment adopted. I mention this so that whatever conclusions are arrived at they may remain as unhampered as possible. The cases here recorded are divided into curative and prophylactic.

CURATIVE CASES.

Case I. A cart foal, six days old, was noticed the day previous to be going lame on the near hind leg and the stifle of the same leg was swollen and tender. The patient was slightly tucked up, but was sucking well, and the temperature was 104·1°F. There was a slight discharge from the navel, stained smears from the pus showing streptococci and staphylococci. The foal was cast, the navel stump squeezed and deeply painted with Tinct. iod. and 5 c.c. of serum injected into the lumen of the cord, which was then tied to prevent escape of the injecto. Ten c.c. were also injected sub cutis into the cervical region.

2nd day. Lameness was no worse, but there was a pronounced dragging of the hind quarters, this condition being accounted for by the opposite stifle becoming involved. Twelve c.c. serum injected sub cutis and 5 c.c. intra navel. The discharge from the navel was less in quantity and changed in consistence and appearence, looking more like curd. Smears revealed many staphylococci, few streptococci.

3rd day. Although the stifle joints were as much swollen the dragging lameness was much less. The sub cutis (15 c.c.) and intra-navel injection as on the previous day were carried out. In smears from the navel I failed to detect any streptococci, although staphylococci were found in abundance. This, I think, is a significant point.

4th day. Patient would run after his mother voluntarily without showing much lameness, and

the joints were also receding. Serum injected (20 c.c.) as previously.

5th day. The lameness had nearly disappeared, but there was still slight navel discharge: serum injections repeated.

7th day. I considered the case so far convalescent that no further treatment was necessary.

Case II. A cart foal, three days old, lame on the near fore leg. The owner, as is very usual, considered the mother had trodden on it. Tenderness over the knee noted but no swelling was visible. There was no discharge from the navel. The temperature was 105° F., to my surprise, for the foal seemed very well. The patient was cast, the *shrivelled* stump of the navel forcibly torn off, exposing a bleeding stump and the vessel lumen. Injected 2 c.c. of serum and ligatured the cord after sterilizing with Tinct. iod.: 5 c.c. serum was also given sub cutis.

2nd day. Knee was swollen, and lameness about the same—if anything a little more pronounced. Injected 10 c.c. serum sub cutis.

3rd day. In addition the elbow swollen, but the knee had gone down. Injected 15 c.c. serum.

4th day. Condition about the same. Injected 15 c.c. serum.

6th day. Lameness and swelling nearly gone. Injected 20 c.c. Recovery complete.

Case III. A thoroughbred foal, five days old. On the third day the owner noticed urine coming from the navel, and doubtless it had been doing so from birth but had escaped detection. The back was arched, and he was going stiffly "all round" When seen by me (fifth day) marked effusion had taken place into the capsular cavities of both stifles but there was no great tenderness: temperature 104·2° F. Injected 10 c.c. serum sub cutis and 2 c.c. intra-navel. Smears from navel pus showed both streptococcus and staphylococcus.

2nd day. Off elbow became involved and the foal had a difficulty in getting up. Injected 12 c.c. serum sub cutis and 5 c.c. intra-navel.

3rd day. The patient could scarcely move and could not get up without help. Repeated the injections increasing the dose to 15 c.c. Smears of navel pus gave abundance of staphylococci, but very few streptococci, and oddly enough the chains were very short compared with those examined in the first smears.

4th day. Foal much worse and unable to stand. No further treatment—died the same evening.

Case IV. A foal out of a half-bred mare by a Shire stallion. I saw this case 12 hours after birth, the foal suffering from extensive double scrotal hernia. I advised watching and leaving severely alone for a week or ten days, after which, if the rupture was still in evidence, we should operate. On the sixth day I was telegraphed for again—"Foal injured elbow." I found the patient with discharge from the navel, and the elbow joint typical of pyæmic arthritis. The hernia had almost disappeared. Temperature 103·4° F. Injected 10 c.c. serum sub cutis and 5 c.c. intra navel.

2nd day. A probable improvement of lameness should be recorded, but upon this it was difficult to judge definitely, for the knee of the opposite leg had become involved, and the symptoms of lameness thereby equalised. Injected 15 c.c. serum sub cutis and 5 c.c. intra-navel.

3rd day. Joints still swollen but patient moves more freely. Repeated the injections: 20 c.c. sub cutis.

5th day. Much improved; repeated injections.

7th day. Lameness almost gone and swellings receding. Recovery good. Smears from navel pus showed streptococci in pure state. After the third injection no more pus came away.

Cases I to IV. Daily temperatures, Fahrenheit:—

1st	2nd	3rd	4th	5th	6th	7th
104·2	103·4	103	102·6	102·4	102·8	102
105	103·6	104·2	103 6	103	101.9	
104·4	104	104·2	103·2			
103 7	102·8	102·4	—	101·6	—	101·7

Case V. A blood foal, somewhat weakly at birth. Difficulty was experienced in getting it to take the teat, and as is usual in many of these cases, gastro-intestinal troubles followed, with consequent depression, weakness, and an increased susceptibility to fall the victim of bacterial aggression combined with a thwarted response on the part of nature to shake this off.

The foal was nine days old when first seen, while the classical symptoms of joint-evil had been patent to the owner three days previously. Both hocks and the off knee were involved, and pus was oozing from the navel: temperature 104·4° F., and the patient was very thin. Smears and cultures obtained from the navel gave streptococci, staphylococci, and Bac. coli. It may be of interest to note here the serum injected into navel seemed to exercise a specific action on the streptococci, judging from subsequent examinations of the pus, but the two latter bacteria appeared to flourish. Fifteen c.c. serum was injected sub cutis, and 5 c.c. intra-navel.

2nd day. Foal no worse, and 20 c.c. serum was given.

3rd day. Near stifle became invaded and the other affected joints more swollen, and certainly more tender. He had great difficulty in getting up. 20 c.c. serum injected.

4th day. Patient much worse; respiration greatly hurried, crepitus detected on the lower third of each lung. Heart's action laboured.

5th day. Condition critical, and the patient was ordered to be destroyed.

Case VI. A blood foal, the mother a primapara. Foal born at 2 a.m., did not stand for two hours: 38 hours later was seen by the owner going lame and carrying the near fore leg. Sixteen hours later I saw the case, the shoulder was swollen and very tender, but by reason of the diffused nature of the swelling was not diagnostic of joint-evil. The navel was shrivelled and appeared quite healthy: temperature 103·1° F. To be on the safe side, I gave 10 c.c serum.

On the afternoon of the following day the near knee and the near hock—looking like a bog-spavin—was swollen, simplifying one's diagnosis. The foal now had to be assisted to rise: temperature 104° F. Prognosis unfavourable. He died some time during the night.

Case VII. A hackney foal. Shortly after birth showed symptoms of perforate urachus, and I prescribed an ointment of Hyd. iod. Cl. cum Ac. boric, without seeing the case. The following day he was noticed not sucking and standing under the hedge, back arched, and dragging hind legs; groans and cringes when pressed over the loins; no swelling in the joints: temperature 104·4° F. Injected 10 c.c. serum, and 2 c.c. into the navel.

2nd day. The near knee was slightly swollen and very painful to the touch: temp. 105·1° F. Injected 12 c.c. serum.

3rd day. Knee much more swollen; unable to stand; temp. 104° F. As the case was looked upon as hopeless it was ordered to be destroyed.

Prophylactic cases.

It is much easier for the immunizer to formulate an opinion upon the efficacy or otherwise of any new line of *curative* treatment than upon *prophylactic* treatment; for the obvious reason that in the case of the former, given a sufficiency of cases one has definite data to go upon, whereas in the latter data tends to merge into hypothesis.

Case I. Foal, two days old. Injected 2 c.c. intra-navel, and 5 c.c sub cutis. Ten days later injected double quantum of each. Did not develope joint-evil.

Case II. Foal, seven days old. Injected 5 c.c. intra-navel, 10 c.c. sub cutis. Seven days later injected double quantum of each. Did not develope joint-evil.

Case III. Foal, 12 hours old, from a susceptible family. Injected 1 c.c. intra-navel, and 6 c.c. sub cutis. Ten days later injected double quantum of each. Did not develope joint-evil.

Description of the Serum used

The producers of the serum write: "Antistreptococcus serum, polyvalent, is prepared by immunising horses with killed cultures of streptococci obtained from numerous sources.*

1. For curative purposes." If the foal is under eight days 5 c.c. is considered a suitable dose; if over, 10 c.c.†

2. For prophylactic purposes; "Where the disease is prevalent it is desirable to give 5 to 10 c.c. as an immunising dose on the 8th and 15th days.‡ This, with the proper care of the umbilicus by dressings will effectually prevent the trouble.§

Observations.

A careful study of the temperature charts shows that in those cases which made good recoveries, *i.e.*, I., II., IV., a steady fall in the temperature was noticeable, and that this fall coincided with the exhibition of the serum. So pronounced was this that one feels almost justified in claiming for the serum a thermic specificity. To still strengthen this supposition we have cases III., V., VI., VII., which all died, where the serum appeared to exercise no favourable control upon the temperatnre whatever. On this basis a steadily falling thermometer justifies the practitioner in giving a favourable prognosis—all other clinical data, of course, being equal. This thermic specificity of the serum leads me to the question of the more important therapeutic specificity.

Nearly all curative and prophylactic hyperimmune sera are *specific* in their action, and to obtain the maximum results it is not enough that they should be *polyvalent*. In the case of a joint-evil serum the immuniser should go to the bacterial flora found in the affected foal and hyperimmunise the horse with cultures derived from those from which he is going to produce his serum, while other strains derived from *various sources* should also be used, thereby making the serum as polyvalent and specific as possible. In addition I would suggest a polyvalent *antistaphylococcal* serum to be used in conjunction with the antistreptococcal serum. In severe cases I would inject these jointly *intravenously*, when the effect would be more immediate and more beneficial. In cases I. and V. the examination of the navel pus prior to and after the injection of the serum strikingly revealed the specific action of the serum upon the streptococci, and consequently I am of opinion that in this method we possess an important asset in the immunising rôle. I do not know if this procedure has been carried out before.

The first time I adopted it was in case I. I use an ordinary sterile 5 c.c. syringe, with the point of the needle broken off and made square with a finger file. The needle is allowed to glide

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* A higher degree of immunity, and consequently a serum richer in immune bodies, could be obtained by injecting cultures, beginning with those containing killed bacteria *i.e.* (*a*) sterile bacterial emulsion; (*b*) attenuated emulsion; (*c*) virulent emulsion.

† I consider double these doses may be given, not only with safety but with advantage.

‡ Why wait for eight days before injecting the immunising serum? Surely every practical consideration calls out for an earlier immunisation.

§ I think the question of dressing the navel in the hopes of obtaining good prophylactic results is largely fallacious, and overdrawn. The most that can be said of this principle is, "if it does no good it can do no harm." One has only to consider the anatomical arrangements of the umbilicus and its position when a foal is recumbent to see how impossible it is to sterilize the navel cord with ordinary dressing or to maintain sterility in routine practice: to ligature the navel is *bad surgery*, and to apply caustic dressings such as carbolic acid undiluted is *bad therapy*. On the contrary, we must do everything to assist nature, not to thwart her. Many foals are born whose navels become bacterially infected at some period of their early life, in fact very few escape altogether, but fortunately their protective indices alone stand so high that bacterial invasion and infection is soon cut short. Where through inheritance these defensive elements are deficient the patient soon falls an easy prey to navel infection. But the navel is not the only channel of infection in subjects susceptible to joint-evil (extra utero): on this point I do not think enough attention has been given to infection through the alimentary canal.

slowly into the lumen and the serum is injected, care being taken that no air is in the syringe *or needle*. I found that a quantity of the serum flowed from the navel when the syringe was withdrawn, and to obviate this I now tie the stump, instructing the attendant to remove the ligature in an hour's time. I believe if a composite serum (coli., strep. and staph.) were used still better results would be obtained.

The serum treatment for joint-evil, I consider is a step in the right direction; and if an improvement in the technique of the production and use of the sera on the lines I have indicated were carried out possibly better results would follow. In the administration of the serum it cannot be too strongly impressed upon practitioners that it is necessary to inject the case *in the initial stages of the disease*. Virulent streptococci exert a negative chemotaxis upon the leucocytes, thereby resisting phagocytosis. The antistreptococcic serum *promotes phagocytosis* and neutralises negative chemotaxis. The serum is also *antitoxic*, and neutralises the hæmo-toxic poison of the streptococci, and it is upon this property, I believe, that the potent action of the serum observed in the foregoing cases depends, particularly from a thermic point of view.

In conclusion, I should like to point out in all fairness that those cases I have described, on the whole, were not so severe as I have seen in previous years, and I may add I have had fewer cases of joint-evil this foaling season than in any previous year—this I attribute to the lowered virulence of pathogenic bacteria generally, probably due to the excessively severe and long winter and spring. If this hypothesis holds good in joint-evil it applies with equal truth in the diminution in the number of cases last winter of influenza, strangles, and the like—at least so far as my practice is concerned.

ABSTRACTS FROM FOREIGN JOURNALS.

A case of true Hermaphrodism in the Ox.

P. Venturi, in *La Clinica Veterinaria* of last year, reported the following noteworthy case. A half-bred bovine animal was brought to the slaughter-house at Urbino as a female. The reason for slaughter was that the urine was discharged in a fan-shaped stream, which depreciated the value of the animal and rendered it difficult to sell.

The external genitals exhibited the following particulars:—Below the anal aperture, and some two centimetres from it, was the vulvar fissure, which measured five centimetres in length. A little distance from the inferior commissure of the vulva, the mucous membrane, after having described a slight circular sinuosity became elevated, constituting a veritable prepuce formed by a voluminous fold. This structure showed a deep depression, from the base of which rose an erectile organ obstructing a considerable portion of the inferior part of the vulva. This latter organ was an enormous clitoris, which measured 2·4 centimetres in length. It had a small depression at its centre, but not the external orifice of the urethra.

Upon the abdomen, precisely at the point of the scrotal region in the male and the mammary region in the female, was a small cutaneous sac of the form of a rudimentary scrotum. To the right of this, occupying the whole of the right inguinal region, were two regularly developed mammary glands.

The post-mortem examination of the internal genital organs revealed a true hermaphrodite. The male organs found were as follows: the testicles, of which the right was much smaller than the left; the epididymes, which were uniform in both testicles; the spermatic cords, which showed nothing abnormal; the vasa differentia, of which the right one was 22 centimetres and the left 30 centimetres long; the ejaculatory ducts, which were very small; and the prostrate, which was bi-lobed, and was disposed transversely to the vaginal canal.

The following female organs were found: the ovaries, of which the left was 2·5 centimetres and the right 3 centimetres long; the Fallopian tubes, which existed for both ovaries, but in different degrees of development, for the left one was rudimentary, and the right normally developed; the uterus, situated along the median line of the cavity; the broad ligament, the left inferior portion of which showed a connective growth representing the parovarium or organ of Rosenmüller; and the vagina and vestibule, with the meatus urinarius in the line of demarcation between them. The orifices of Bartolini's glands, of the minor vestibular glands, and of Gärtner's ducts, were also recognised in the mucous membrane, with the clitoris and its corpus cavernosum.

Histological examination confirmed the existence of true hermaphrodism. Under the microscope, the testicles appeared furnished with an albuginea, and they showed Highmore's body centrally. The testicular lobules were slightly visible, and the septula testis existed. All these parts were constituted by compact fibrous connective tissue. The seminiferous tubules, which normally are of almost uniform calibre, were of very variable calibre in this case. The interstitial substance was abundant; and in it were observed numerous interstitial cells, which abounded especially in the right testicle. The walls of the seminiferous tubes were constituted by a fine stratum of connective fibres.

In the prostate, a muscular part and another glandular part which formed the parenchyma were distinguished.

The vesiculæ seminales had an eminently glandular aspect, with notable augmentation of the muscular tunic at the expense of the internal capacity, which was reduced to the minimum.

The adventitia was normal; and diverse embryonic residues were also found.

The ovaries, at their surface, showed a cylindrical epithelial covering which differed in the two glands. In the left ovary, the cells were of higher type and were stratified, while in the right they were of lower type, and formed a single and fine stratum. Underneath this ovarial or germinative epithelium was the connective stroma, which appeared to be fibrillar structure, more compact in the periphery.

It was constituted by large fibro-cells with oval nuclei, mingled with which numerous elastic fibres and some leucocytes were noticed. The stroma was more abundant and compact in the left ovary. The right ovary confirmed the macroscopic aspect of complete and perfect development.

The uterus was constituted by its three tunics—serous, muscular, and mucous. The corpus cavernosum of the clitoris did not differ from the corpus cavernosum of the normal penis. The epoophoron clearly showed its tubular structure. In the female organs, as in the male, some embryonic residues were found.

The author has made a careful analysis of the literature upon this subject. He finds that only four cases of true hermaphrodism have so far been recorded in man, and 22, including his own case, in the other mammals. Some other cases (six in man and eight in other mammals) which were very probably of true hermaphrodism, have also been recorded. The above case is the first one of *Hermaphrodismus verus biglandularis bilateralis* which has been recorded in the ox.—(*Revista de Higiene y Sanidad Pecuarias*).

CONTAGIOUS ABORTION IN CATTLE.

INOCULATION TEST IN IRELAND.

A report has been issued by the Governors of the Munster Dairy School and Agricultural Institute, Cork, on the inoculation of cattle against contagious abortion. Early last year arrangements were made at the Institute to provide veterinary treatment for herds which had suffered from this disease which has been the cause of very serious loss to the dairy farmers of the county. The Department of Agriculture kindly provided the vaccine for the necessary inoculation free of cost. For a beginning the results have been distinctly satisfactory.

The following table shows the results of the 140 inoculated :—

Curative.	Preventive.	Result.
—	19	Doing well. Two did not keep the bull, but have done well since.
6	—	Doing well.
2	—	Calved all right.
10	15	Doing well ; one barren.
10	—	One Kerry aborted. *Two not inoculated aborted.*
6	—	Doing well : three barren.
6	—	Doing well.
4	—	Doing well.
20	42	Two of the 20 aborted, but none of the others
64	76	

Nine herds were treated, comprising 140 animals, of which 64 had previously aborted, and of these only three aborted and four were barren. In one herd of twelve cows, where two animals had not been inoculated, these two aborted, while only one of the ten inoculated animals aborted.

Of the total number of cows which had previously aborted, and which were subsequently inoculated, three again aborted, being a percentage of only 4·68 of the previously aborting cows. Four of these cows were also barren. If these are added to the three cows which aborted, it gives seven cows which failed to produce a live calf within the year, or 10.93 per cent. of the total of 64 aborting cows which were subsequently inoculated.

Amongst the other animals, 76 in number, which had not previously aborted, and which were inoculated as a preventive measure, there was not any abortion.

In the herd mentioned last on the above list, out of 62 animals, where 20 had previously aborted, the whole herd was inoculated, and only two cows aborted subsequently. When the extremely infectious character of the disease is considered, it seems not unreasonable to infer that the inoculation of the animals which had not previously aborted, numbering in this herd 42, in a great measure helped to check the further spread of this most serious malady. Should this rate of decrease in abortion continue in the future the value of the treatment carried out during the past year will be very great.

It is to be hoped that now that there is a treatment available which offers a fair hope of greatly diminishing the ravages of the disease, farmers will notify at once any outbreak of abortion in their herds, and submit them to veterinary treatment, rather than by suppressing the fact and disposing of affected animals, increase the spread of a disease which has cost the country many thousands of pounds.

An experiment confined to a comparatively small number of animals, and only carried out for one year, cannot be considered conclusive ; but it confirms the results of previous experiments carried out in England, with a very much larger number of animals, and extending over a longer period.

Midleton. J. F. HEALY, M.R.C.V.S.

Farmers' Gazette.

VISIT TO THE BOARD OF AGRICULTURE VETERINARY LABORATORY, NEW HAW, ADDLESTONE.

The quarterly proceedings of the Midland Counties' Veterinary Medical Association on this occasion took the form of a visit to the new laboratory of the Board of Agriculture for the investigation and control of diseases of animals. This was by the kind invitation of Sir Stewart Stockman, who also asked the Central and Royal Counties' Associations to avail themselves of the same pleasure. This they readily consented to, and a large party representative of the three societies met at the Hand and Spear Hotel, Weybridge, on Tuesday, Sept. 25th, where they lunched together. Special conveyances were provided for the drive to New Haw, where the visitors were met by Sir Stewart Stockman and heartily welcomed. The premises are scarcely out of the hands of the contractors, whose men are still applying finishing touches, but the work was sufficiently advanced to enable the visitors to appreciate the scheme and many of its details. The appliances for research work were seen to be manifold, little is wanting in the matter of equipment, whilst the out premises, in which the progress of any disease may be closely studied, are constructed on up-to-date lines. Sir Stewart personally conducted the party round and explained some of the important work which is in progress there.

The buildings occupy a large quadrangle, standing well back from the road. One side is occupied by the laboratory, and the others by small detached buildings—housing for experimental animals, dwelling for attendants, boiler and electric plant, lairages for swine and large animals, etc., with a narrow guage railway running round the sides and into the lairages, for convenience in feeding and cleansing.

The main building, which faces the road, is in red brick with stone facings, of an early Georgian type, of handsome elevation, proportioned, free from superfluous

decoration, well lighted, and altogether suited to its character. The lower rooms are lined with white tiles, the wall angles eliminated by curved tiles, the junctions of walls and floor filled with curved granitine paving in modern hospital style, and they are admirably lighted throughout.

In the museum a number of specimens are shown, mainly connected with Swine fever, Johne's disease, and Foot-and-mouth. These are beautifully preserved, and Sir S. Stockman considers that, when completed, this collection of pathological specimens will be one of the best in the world. Dominating the museum from the wall is a splendid buffalo head brought by Sir Stewart Stockman from East Africa.

Visits were paid by the party to the X-ray room, the photographic dark room, the diagnosis laboratory with post-mortem room attached, the bacteriological laboratory and various work rooms. One room is allotted to a battery of steam sterilisers with, in addition, electric and hot-air chambers. One pattern of electric centrifuge runs up to 8000 r.p.m., and one, driven from the water supply gives 4000 r.p.m. There are electrically-warmed plates for conservation of specimens for examination; and a microscope mounted on a warmed plate, and enclosed by wooden casing, to maintain the temperature of specimens to be examined *in vivo*. The attics on the upper floor are utilised for storage: much of the necessary glass ware is there kept in racks.

Besides the useful lecture lantern, there is a projecting apparatus for showing microscopic specimens on the screen, and a cinematograph which is to be used for illustrating the movements of animals suffering from diseases affecting locomotion and other diseases which may produce objective symptoms capable of being studied by moving pictures.

Afterwards a tour was made of the grounds and the various outbuildings—isolation boxes, piggeries, sheep pens, etc. There were several groups of animals under observation; one of the most interesting was a group of lambs nearly two years old, under control since birth, in the investigation of the peculiar disease known as "scrapie"—a disease transmitted by inheritance under given conditions. Definite knowledge on several points concerning it has been collected in recent years, and confirmed by several observers, and it is now hoped that further elucidation may follow.

Later, in the library, a series of slides was shown, illustrating certain condition in swine fever and contagious abortion in cows and sheep.

At the conclusion of the inspection, tea was served in one of the larger rooms.

VOTE OF THANKS.

Mr. J. MALCOLM (President of the Midland Counties Veterinary Medical Association) said the hearty thanks of the members were due to Sir Stewart Stockman for his great kindness in inviting them to be present that day to see such admirable buildings, the finest buildings of the kind in the world at present, which was saying a very big thing. All those present had been interested and instructed by what they had seen that day, and were deeply indebted to Sir Stewart Stockman for permitting them to see the admirable arrangements that had been made for carrying out the work of the Board of Agriculture. Things are very different to-day from what they were in years gone by, when the members of the profession scarcely ever saw the members of the Board except on an occasional visit at their homes. There was no place then to which to invite veterinary surgeons. He used to go sometimes to Scotland Yard and see the little place where they did what little experimental or post-mortem work was done, and he could say that one of the sheds in the present building was more than equal to all the accommodation that used to exist in Scotland Yard. The profession know that they can appeal to the veterinary staff of the Board for information with the certainty of obtaining it.

At the end of the South African war the whole country was covered with placards relating to epizootic lymphangitis, and that time one of the local veterinary surgeons reported a suspicious case in Birmingham. He himself had never seen a case, but he examined the horse, and after microscopic and other examinations he came to the conclusion that he had to deal with a case of farcy, and described it as such. He wished if possible to see some specimens of the disease, and came up to London and called at the Royal Veterinary College, but unfortunately Sir John M'Fadyean was away at the time, and he then went on to the Board of Agriculture premises and saw Mr. Cope, who was unable to show him a single specimen, and said he had never seen a case of the disease. He then went on and saw Mr. Hunting, and then, with Mr. Cope and Mr. Hunting, went to Woolwich and saw some slides. Curiously enough, a fortnight after that there were two cases in Birmingham, and he was able to say what the animals were suffering from. That was a different condition of things from what existed at the present day. The Board then had no means of meeting the requirements of the profession. It was only since Sir Stewart came to the Board that there had been developed the new line of research which appealed to everyone, and would be of immense advantage to every every member of the profession. Not only could information be obtained from the Board, but there might possibly be an opportunity some day for the younger members to obtain some laboratory training in the Board of Agriculture's building, and training in the right way. In that connection, he thought the Board might possibly extend their present facilities a little further than they had done in the past, particularly in connection with foot-and-mouth disease. Specimens had been shown that afternoon, but how much better would it be for the veterinary staff in the country if they could see actual specimens of the disease. Very few young members of the profession at the present present time had seen the actual disease, and he ventured to say it would be to the benefit of the Board and the benefit of the profession if those young members were given an opportunity of seeing the disease when it occurred. It would certainly add to the benefit of the community, because men would be able to say whether they were dealing with a case or not. Practice after all was ahead of theory in some things. About three years ago two cases occurred in the Birmingham abattoirs. He was away from home at that time, but his colleague saw them and was not quite sure. All the traffic was stopped in the markets. On his return he saw them himself, and they were certainly suspicious. It turned out that it was not the disease, but if he had made a mistake then he would have been condemned by the Birmingham butchers for ever. If at that time there had been an opportunity of seeing specimens when the disease occurred, it would have been a great advantage, and an advantage to the profession, who would get the support of the farmers and butchers. He thanked Sir Stewart Stockman very much for what he had done for the veterinary profession, for permitting the members to be present that afternoon to see the premises, and for being ever ready to give the profession help and aid in their work.

Mr. J. WILLETT, as representing the Royal Counties Veterinary Medical Association, had much pleasure in supporting the cordial vote of thanks to Sir Stewart Stockman. Every visitor that day had appreciated his great kindness. As a matter of fact, Sir Stewart had always been kind to the profession since he had been at the Board of Agriculture. He did the Royal Counties Association the honour of becoming its President some

time back, and he believed that was the only English Veterinary Society of which he had been President. At a meeting of the Royal Counties Association which had been just held, a resolution had been passed inviting him to become a life member of the Association, as a slight mark of the appreciation which the members felt for him.

Mr. N. ALMOND, President of the Central Veterinary Society, had great pleasure in supporting the vote of thanks. Everyone thoroughly appreciated the scientific attainments of Sir Stewart Stockman, and the use he was making of them. He was quite certain that if the lines were followed which were indicated by the establishment that had been inspected that day, the students of the future would benefit to a very great extent in their accuracy of diagnosis and their appreciation of the details of disease. Especially would that be the case in the matter of symptomology. The cinematograph which they had seen in the laboratory would play, he believed, a very important part in educating the young veterinary surgeon in recognising the forms of disease which would come under his observation, a means of education which at the present time was practically non-existent.

The motion was carried with acclamation.

Sir STEWART STOCKMAN said he need not say what a great pleasure it had been to receive members of the profession that day. He could have wished the place had been more complete, but it was very complete in comparison with the first laboratory, the cellar dwelling in Scotland Yard, where there was hardly room to move about, as Mr. Malcolm had said. The movement began in Scotland Yard, which was followed by a somewhat better place in the country, which was still found inadequate, and the present building had been erected. When the new building was started there was the usual trouble to get money, but it was obtained at last, and then it was found that it could not be used as fast as was desired on account of the war, and the work on the laboratory was held up, like many other things. But no attempt was made to stop the building of the place; it went on as it could be done. Now a stage had been arrived at where at least the staff had been able to take occupation and use the rooms. Mr. Malcolm was very anxious that veterinary students and others should work there. That was one of the reasons for the existence of the place that were given to the Development Commissioners when the money was asked for, namely, that anyone who really wanted to do serious work might come to the place and find everything he might require and do his work, provided he was seriously minded.

But there had always been a difficulty with regard to the young veterinary surgeon doing that kind of work. Why, he did not know. He was afraid it was that the pay they received in other kinds of work to start with rather took them away from laboratory work. It was one of the hardest things to get a veterinary student, even some of the very finest graduates with the finest brains, to make the sacrifice of spending a year or two on practically no pay to learn the business. It was well known that no amount of college training could produce a man who was fit to do research work. He had to serve an apprenticeship after he had finished his college training, and the reward at the time of training was very small. He himself for years had to teach classes of students on the grand salary of £150 a year, but he learned his business, as far as he did learn it, during those years. He greatly regretted the number of brilliant sons of veterinary surgeons who would do well at the work if put to it, but who were taken into practice. He did not despise money, and was quite certain that if a man held on long enough at science, especially veterinary science, his future would be assured. He did not say a man would make a fortune, but he would certainly obtain a position which would keep him comfortably. Any boy who wanted to come to the laboratory after his college course, and was willing to work, would have room found for him and work given to him. He only hoped that the men for that sort of work would turn up. It might be possible to pay them a small salary, but that he did not know. All sorts of things were promised before the war, but one did not know how much would be forthcoming when peace was declared.

His great pleasure in connection with the building was that it was a sign that the Board of Agriculture and the Government had recognised the importance of veterinary research, veterinary pathology and veterinary medicine in general, and he looked upon the building as a monument to their appreciation of veterinary work. Whether the laboratory would be able to turn out work which would justify its existence in his day remained to be seen, but important work had already been turned out, and it would be at least something to have erected such a building even for the generation that followed. He thanked the members for visiting him that day, and for the vote of thanks they had accorded to him.

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

The general business of the meeting was of a formal and restricted character. Mr. John Malcolm, President of the Association, occupied the Chair, and other members of the Association present were: Prof. Macqueen; Messrs. F. L. Gooch, Stamford; S. M. Woodward, L. C. Tipper, and E. O'Neill, Birmingham; W. E. Ison, Atherstone; R. Over and A. Over, Rugby; S. J. Marriott, Northampton; J. Cormack, Coventry; J. O. Powley, Sutton Coldfield; R. Murray, Rugely; J. G. Parr, Leicester; W. Grasby, Daventry; W. H. Brooke, Handsworth; J. Martin, Wellingborough; C. F. Parsons, Cheltenham; F. V. Steward, Hereford; and the Hon. Secretary, Mr. H. J. Dawes, West Bromwich. Major Chambers, Aldershot; Mr. R. Hall, Barry, and Mr. W. H. Brown, London, also attended as visitors.

Apologies for absence were received from the following: Sir John M'Fadyean, Profs. Dewar and Mettam; Maj. Powell, Maj. G. H. Hobson, Capt. R. Clunas, Capt. L. W. Heelis, Capt. J. Martin; Messrs. Fairer, R. Cockburn, T. J. Brain, T. Spencer, E. Hall, T. Chambers, F. H. Gibbings, R. P. Palmer, E. Ringer, R. Hughes, R. L. Phillips, H. W. Stevens, R. McGregor, T. Slipper, J. Bainbridge T. Ludlow, J. R. Carless, J. T. Allen, R. C. Trigger, W. Trigger, A. Crofts, M. Tailby, J. C. Deville, H. A. Turner, T. Duckworth, H. L. Pemberton, G. F. Prickett, W. White, J. J. Burchnall, F. O. Taylor, H. Yeomans, Capt. James Blakeway, and Mr. John Blakeway, and others.

The minutes of the previous meeting were read and confirmed.

Correspondence. The HON. SECRETARY read a letter from Sir Stewart Stockman thanking the Association for electing him an honorary associate.

A letter was read from Maj. Devine, thanking the members for their letter of congratulations.

The Hon. Sec. also read a letter from Mr. John Blakeway, agreeing to withdraw his resignation. Having regard to Mr. Blakeway's long official connection with the Association, this afforded much satisfaction.

Votes of condolence. The PRESIDENT said that since their last meeting they had lost two members by death—Mr. Gold, of Redditch, and Mr. Rutherford, of Bromsgrove. He moved that a letter of condolence be sent in the name of the Association to Mrs. Gold, whose husband was one of the best respected members they had ever had. Mr. Gold was a first-class practitioner, who had a wonderful intuitive faculty for recognising doubtful cases. He was a man they could ill-afford to lose.

Mr. BROOKE, in seconding, said he had been brought into contact with Mr. Gold in many ways, all recognised

him as a leading man in the profession, who enjoyed the confidence not only of his clients but of his fellow practitioners in a marked degree. "I think he killed himself with overwork," added Mr. Brooke, "for he was helping Mr. Rutherford during his illness as well as attending to his own business."

Mr. TIPPER, in supporting the motion, said that Mr. Gold was one of the most valued veterinary inspectors in the service of the Worcestershire County Council.

The motion was carried *sub silentio*.

The PRESIDENT moved a similar resolution in regard to the late Mr. Rutherford, in whom, he said, they had lost a very worthy member.

This was seconded by the Hon. Sec. in sympathetic terms, and also agreed to, those present rising as a mark of respect.

ACCIDENT TO MAJOR J. W. COE.

The HON. SECRETARY referred to the misfortune which had overtaken Maj. J. W. Coe, of Stoke-on-Trent, who had not only served the office of President of the Association, but was one of the most regular attendants at their meetings. Maj. Coe had the misfortune to fall with his horse, and had dislocated one of the cervical vertebræ. Their hearts must all go out to Mrs. Coe in her heavy sorrow. She had been looking after the practice while he was away, with the aid of Mr. Trigger, and Mr. Tart. He moved that a letter of sympathy be sent to her from the Association.

This was seconded by Mr. A. Over and carried.

A notice of motion. Mr. TIPPER appealed for the support of the Association for a fund which was being raised by the Birmingham branch of the Vehicle Owners' Association to provide a motor ambulance.

The HON. SEC. pointed out that equally deserving objects more closely connected with the profession had a claim upon their resources.

Mr. GOOCH suggested that the matter be left over until they knew more about it.

Mr. MARTIN thought it would do the profession no harm to show its sympathy in a practical way with this effort of the Vehicle Owners' Association. He accordingly gave notice that at the next meeting of the Association he would move that a sum of two guineas be devoted to the object.

Next place of meeting. It was resolved on the motion of the Hon. Sec., seconded by Mr. Gooch, to hold the next quarterly meeting of the Association in Birmingham, and to make the subject for discussion Interesting Cases brought forward by members. He took the liberty of inviting Prof. Macqueen, of whom they saw all too little at their gatherings, to attend and take part in the proceedings.

Prof. MACQUEEN said it was very good of the Hon. Sec. to put it that way, and he should have much pleasure in attending the next meeting and opening one of the discussions.

THE CENTRAL VETERINARY SOCIETY.

The following Fellows of the Central Society were present at the meeting at Addlestone: Mr. N. Almond, President; Messrs. F. W. Willett, H. J. Parkin, J. Shepherd, J. B. Buxton, A. E. Gostling, W. Reekie, A. E. Payne, R. J. Foreman, F. G. Samson, R. A. Philp, J. B. Tutt, J. Rowe, C. Sheather, W. Perryman, T. S. Price, W. N. Thompson, Dr. J. McI. McCall, Capt. J. T. Edwards, and Mr. Hugh A. MacCormack, Hon. Sec.

ROYAL COUNTIES VETERINARY MEDICAL ASSOCIATION.

At a formal meeting held at the New Laboratory, the following members were present: Mr. J. Willett, President; Sir Stewart Stockman, Prof. Wooldridge, Capt. E. Brayley Reynolds; Messrs. S. H. Slocock, G. E. King, W. A. Hancock, W. Pauer, G. Upton, and G. P. Male, Hon. Sec.

Apologies for inability to attend were received from Messrs. W. T. D. Broad, J. East, and J. McKerlie.

Mr. H. A. MacCormack, M.R.C.V.S., London, and Mr. J. B. Buxton, F.R.C.V.S., London, were elected members of the Association; proposed by the President and seconded by the Hon. Sec.

Mr. G. C. Robertson was nominated for election by the President.

The PRESIDENT proposed that Sir Stewart Stockman should be elected a Hon. Associate and Life Member of the Association, and pointed out the great services that he had rendered not only to the profession generally but to their particular Association. He had occupied the office of President and had on several occasions invited the members to the Laboratory and entertained them most hospitably.

The HON. SEC. seconded, and endorsed all that the President had said as to Sir S. Stockman's interest in their Association. The demonstrations to which they had been invited had been most helpful to the members, and they owed him an especial vote of thanks for including the Association in the invition to be present that day at the New Laboratory. Sir S. Stockman always had the interests of the profession at heart.

All the members present supported the proposition, which was carried by acclamation.

Next meeting. It was proposed by the President, and seconded by Mr. Hancock, that the next meeting should be held at Reading.

G. P. MALE, Hon. Sec. and Treas.

YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

[NATIONAL V.M.A.—NORTHERN BRANCH.]

A meeting was held at the Hotel Metropole, Leeds, on Friday, April 27th, 1917, the President, Mr. S. E. Sampson, Sheffield, in the chair. Other members present included Messrs. A. McCarmick, G. E. Bowman, E. Child, S. Wharam, G. C. Barber, Leeds; J. McKinna, Huddersfield; C. Pitts, Bradford; P. Deighton, Selby; W. Edmondson, Harrogate; H. Pollard, Wakefield; G. W. Carter, Keighley, and the Secretary.

An apology for non-attendance was received from Mr. Tom C. Fletcher, Sheffield.

The notice convening the meeting was first read, followed by the minutes of the previous meeting, after these had been passed and signed, on the proposition of Mr. Bowman, seconded by Mr. Pollard, there being no special correspondence and no nominations, the President read his address.

PRESIDENTIAL ADDRESS.

S. E. SAMPSON, M.R.C.V.S.

Gentlemen—In rising to give you my address, I must first thank you for the honour you have done me in electing me your chief officer for the current year, and although I am quite aware the "mantle" might have fallen on abler shoulders, I hope, with your assistance, to bring the year's work up to the level of its predecessors.

Naturally, one's first thoughts turn to the war, and some of its effects on our profession. We meet here well on in the third year of this terrible conflict, which we hope and trust will be brought to a successful issue by next year. During this time large numbers of civilian practitioners have joined up to serve their country in the A.V.C. In Sheffield before the war we had 15 resident qualified veterinary surgeons, seven of whom now hold commissions, and as you are aware one of this number has, along with several other members, been decorated by H.M. the King with the D.S.O.—I refer to Joseph Abson. All honour to him and his co-recipients. It would, I think, be only right that the profession

should, at a convenient time, acknowledge in a suitable manner these honours; and I feel sure this association will be only too glad to give what assistance it can to perpetuate the memory of these men—and let it be done in no uncertain manner. The recent demand for more veterinary surgeons for the Army, and the reviewing of exemptions by the military authorities, has caused quite a stir in our ranks. From the report of the last Council meeting it seems pretty evident that civilian practitioners and officers of the A.V.C. are not being used to their fullest capacity, however, be that as it may, while I am quite confident it is no business of ours to tell the War Office what, or what not, shall be done with their veterinary officers, I am equally confident that the reports we have seen in our Press will bring sharply to the notice of the authorities the state of affairs in the country and the opinion of the profession generally on the matter; with perhaps the result that ways and means will be found to meet the situation without further depleting our ranks at home. If the Government decide that they must have more men for the A.V.C., I do hope that some of the men above military age will see their way to leaving their practice in the hands of a neighbour, in order that they may go to the assistance of a man of military age in a single-handed district.

Another matter arising out of the war is the tremendous impetus it has given to motor traction with a consequent lessening of horses kept for haulage, and undoubtedly when this conflict is over there will be a big fight of motors *v.* horses for general utility purposes. It is up to us as a Profession to assist as far as possible in the procreation of a race of horses which will attract commercial men to employ their services—in other words we must insist on soundness, stamina and activity.

It is very gratifying to note that shortly unsound stallions will not be allowed to travel; a law which ought to have been in force years ago, for it would have saved breeders from endless failures and the ultimate giving up of horse breeding. It seems to me rather odd that the Board of Agriculture should not do as the Shire Horse Society do—have at least two men to examine their animals for soundness with the option of calling in a third opinion. I am strongly of opinion that these examinations for soundness in breeding animals should be made by graduates of not less than eight or ten years' standing, because very few of our men have had, before that time, the opportunity of watching horses grow up and stand the test of hard work; or, in other words, they have not got the practical experience to guide them in coming to a right conclusion at the crucial moment.

It is also very gratifying to note that various Societies are taking up on a sound basis the investigation of Joint-evil in foals, for many of us know to our sorrow that our knowledge of this complaint is anything but satisfactory, and what in our hands has proved successful treatment in one or two seasons may be of absolutely no use in the next one; this at least has been my experience. You will no doubt have noticed that the Clydesdale Society has got to work, and meetings have been held at which representatives of veterinary science and agriculture were present to collect evidence on Joint-evil, and I am anxiously looking forward to the time when their deliberations and those of the Shire Horse Society will be published.

Another matter arising out of the war is undoubtedly of great importance to us, *i.e.*, the production of Meat and Milk. I should like here with diffidence to point out that those of our men who in the past have been doing a great deal of the work which has been looked upon by a considerable portion of the profession as of a dirty and undesirable nature, have, as events have have turned out, been doing yeoman service to their country in the realm of agricultural practice, and it is to be regretted that more men have not fitted themselves for this branch of the profession. It ought to be the duty of our Council to see that men are turned out of our Colleges with a training that will enable graduates to grasp the many and essential points of agricultural practice. I think there is very little doubt that in the future agriculture will demand of the profession men who know and are able to advise not only about the illnesses of stock, but about their general management with regard to the important problems of rearing and feeding.

Turning now to our contagious disease, we have recently had before the Midland Association a very valuable and exceedingly hopeful report on swine fever, and one hopes that light is at last dawning on this most troublesome and difficult complaint which has cost the community so much money and loss of pigs. We must admire Sir Stewart Stockman for the manner in which he has laid before the profession the facts concerning the treatment by the serum method, and one cannot help but think that the policy of the Board or at least its chief veterinary officer, will be in the future to approach and consult with general practitioners to a greater extent, in the Board's endeavours to elucidate the problems of our various diseases. We on our part must meet them and give what assistance we can.

There occurs to all of us at times difficult cases or specific diseases to deal with, and I am firmly of opinion that if we could have a local veterinary officer responsible for the whole of the county or district in connection with the Board of Agriculture, one who we could consult and from whom if necessary, obtain suitable sera or vaccines at a small cost, it would greatly assist us to overcome complaints we encounter, and would undoubtedly place the value of our services in a better position towards our clients. Such a system exists in Lanarkshire, and is presided over by Mr. Hugh Begg with very great credit to himself and his Council.

The handsome response by our members to the Council's request for funds is sufficient evidence, to my mind, that the profession are anxious to back up the Council in their endeavour to carry on the business of the College, and it is to be hoped that the Council have already taken some steps to have our educational system included in the new scheme of education which Mr. Fisher of Sheffield University (Education Minister) has recently outlined in the House of Commons, and I should say, considering the great importance given to agriculture at the present time, that we ought to stand a good chance of getting considerable help from this scheme.

These, gentlemen, are the thoughts which have come uppermost in my mind, and I thank you heartily for your patient hearing. There are many more points one could touch upon, but being anxious not to weary you I have "dried up." It is not usual for a discussion to take place on a Presidential address, but I see no reason why that rule should not be altered. I ask you to discuss freely anything I have said or left unsaid which will benefit our profession. As we have no reporter here, I think you may rely on our Secretary to only let go to press what is best, in fact I think we can look upon ourselves as being in committee.

Mr. J. McKINNA thanked the President for his excellent address—excellent alike in matter and arrangement. With regard to the education scheme suggested by the Minister of Education, nothing had been officially heard of this by Council at its last meeting. He thought the profession were responding very well to the Council's request for subscriptions, and he took this as a sign that the profession were desirous that the Council should not be hampered in its work.

Mr. S. WHARAM congratulated the President on his address and agreed that the profession had responded nobly to its country's call, and thought that if more men were really needed they would be forthcoming. With regard to the voluntary subscriptions to the R.C.V.S., he was not very sure that it was a success, and thought it would be necessary to make it compulsory.

He had been interested in joint-ill for many years, and had read two papers on the subject. His experience was that foals born outside rarely had it, and was a great believer in trying to build up the constitution of foals by tonics, such as Fellows' and Parrish's syrups. The examination of horses as to soundness for breeding purposes requires considerable experience.

Mr. BOWMAN thanked the President for his interesting address. He thought that perhaps the War Office had not used civilian V.S. as well as they might have done, though, of course, he was bound to admit that they should know their own business best.

Regarding swine fever, he had much greater faith in the serum treatment than at first, and thought he had been more successful latterly in preventing its occurrence. There certainly had been a few deaths from wasting and septic pneumonia, but on the whole he should regard the treatment as a success.

The SECRETARY also thanked the President for his address; and spoke of the difficulty he had met with in the treatment of joint-ill in foals.

Mr. W. EDMONDSON joined the others in thanking the President. He also was of opinion that the War Office had not utilised the services of the civilian V.S. as they might have done.

Mr. E. CHILD also added his word of thanks, and agreed with the previous speakers with regard to the use of civilian V.S. by the War Office. He was of opinion that there should be no relaxing of the standard of general education necessary, apart altogether from veterinary education. It had always seemed to him there was a great lack of knowledge as to the varieties of swine fever, and room for very much more work in connection with it. There seemed also some difficulty in the estimation of the quantity of serum necessary, but, of course, the whole system was as yet in its early stages.

His experience of the army was that the baths for mange at the base were a distinct success, but that units were very variously equipped.

He agreed that practical experience was very necessary to be successful in the examination as to soundness of horses for breeding purposes, and thought no subject led to more grievances or trouble than this.

Mr. MCKINNA then proposed a vote of thanks to the President, which was carried unanimously.

The PRESIDENT thanked the members for the useful remarks on his address, and was glad to hear that the various speakers were unanimous with regard to the War Office not employing civilian practitioners sufficiently to assist in military duties. It seemed a pity that specialists should not be employed at their particular study to the advantage of the army.

The difficulty he found with regard to foals being born at grass was that most of them were born inside, and the unhygienic conditions on a good many farms were absolutely beyond description.

The examination as to soundness of breeding animals was undoubtedly one of the greatest importance, and this fact requires the greatest possible emphasis, which I think members have freely expressed.

Mr. MCKINNA exhibited eight vesical calculi weighing 10 drams, and three renal calculi which he had taken from a 15-month-old Pekingese spaniel which had died—probably from uræmic poisoning—and on which he had been asked to make a post-mortem. Considering the age of the dog, the case was absolutely unique in his experience.

Mr. CHILD quoted a case of retention of urine in a dog and Mr. SAMPSON cited a case of persistent vomition in a dog which, post-mortem, was shown to be due to two renal calculi: there being no vesical ones present.

Mr. S. WHARAM reported a case of a cart horse which picked up a screw nail used for securing galvanised iron on roofs. The nail punctured the frog over the middle third and came out in the heel; the nail was extracted, foot pared out and disinfected. There was great lameness and pain. Slings were tried, but all efforts to control the horse were in vain and slaughter had to be resorted to. The post-mortem revealed no fracture or ulceration of navicular bone, and he was at a loss to account for the most excruciating pain shown.

Mr. SAMPSON asked if the horse was a shiverer and received a negative reply.

Mr. P. DEIGHTON raised a query with regard to white heifer disease—why the complaint was only seen in white ones. Members expressed various opinions with regard to pigmentation, etc., but no definite reason could be assigned.

A vote of thanks to the President concluded an interesting meeting, and the members present adjourned to tea.

J. CLARKSON, Hon. Sec.

THE GLASGOW VETERINARY COLLEGE, INCORPORATED.

A meeting of the Board of Governors of the Glasgow Veterinary College, Incorporated, and the eighth annual general meeting of the association were held within the office of the secretary, 105 St. Vincent Street, Glasgow, on Wednesday afternoon, Sept. 26th, Sir Hugh Shaw Stewart, Bart., C.B., presided. The annual reports, accounts, and balance sheet, as at 31st March, 1917, were submitted and approved.

It was reported that the Corporation of Glasgow had reappointed Bailie Irwin and Councillor Turner as their representatives for three years from 1st October, 1917, and that the School Board of Glasgow had reappointed Dr. Scanlan until 30th September, 1918.

It was further reported that Mr. S. H. Gaiger, F.R.C.V.S., had been appointed Professor of Pathology, Bacteriology, and Protozoology at the College, and that, in addition, he was to devote his time to research work, making a special enquiry into the sheep disease known as braxy. It was stated that the preliminary steps had been taken in connection with the equipment of a Bacteriological Laboratory at the College.

It was reported that an effort was being made to extend the Lectureship on Meat Inspection by including inspection of milk.

The conditions of the future awarding of the Allen Thompson Gold Medal were submitted and approved. The Finance, College, Executive, and Examinations Committees, and their conveners were all re-elected. Mr. Hugh Duncan, M.A., LL.B., writer, 105 St. Vincent Street, Glasgow, was re-elected Secretary and Treasurer. It was reported that the classes at the College re-opened that day for the current session.

The alternating use of antiseptics.

Charles Richet holds on theoretical grounds that a surgeon should never use a particular antiseptic solution for two consecutive days in the treatment of a wound (*C. R. de l'Acad. des Sciences*, 1916, p. 589). He showed in 1914 (ibid., clviii, p. 764) that microbial organisms (the lactic ferment) developing in abnormal solutions—that is, those which contain feeble quantities of a toxic body—become accustomed very quickly sometimes in twenty-four hours, to the unfamiliar sub-

stance applied, and Richet believes that when a given antiseptic is used for a wound for several weeks the microbes become gradually adapted to it, so that its antiseptic action is notably weakened. A daily change of the antiseptic solution is therefore a rational procedure.

He groups antiseptics thus: (*a*) Oxidizing antiseptics, such as hypochlorites, hypobromites, iodine, chlorine, oxygenated water, ozone, and potassium permanganate; (*b*) metallic antiseptics—namely, salts of mercury, silver, zinc, copper, iron, etc.; (*c*) aromatic derivatives, phenols, salicylates, thymol, naphthol, cressote, etc.; (*d*) diverse antiseptics, such as formol, chloroform, essences, chloral, fluorides, boric acid, etc.

He suggests the use of a substance out of groups *a*, *b*, *c*, and *d*, respectively, on four successive days, followed by a different member of each of these groups on the next four days, and so on. He holds that the great advantage of a daily change of antiseptic solutions is that the microbes which multiply in the wound have each day to strive against a different poison, so that they have no time to acquire tolerance. He thinks the same principle should apply to remedies for internal diseases also. Just as in tuberculosis each new remedy may give a good result for some days, he suggests that the parasites of malaria, syphilis, or typhoid fever, may possibly acquire a tolerance of drugs taken by the mouth.—*Brit: Med: Jrnl:*

ROYAL VETERINARY COLLEGE, LONDON.

LIST OF MEDALS, CLASS PRIZES, ETC., AWARDED AT THE OPENING OF THE SESSION, 1916-17.

COLEMAN PRIZES.—Silver medal: Mr. F. C. Scott; Bronze medal: Mr. L. P. Pugh.

CENTENARY PRIZES.—Class A: Mr. R. W. A. Watchorn; Class B: Mr. W. J. Leyshon; Class C: Mr. W. A. Williams; Class D: Mr. F. C. Scott.

ROYAL AGRICULTURAL SOCIETY'S MEDALS.—Silver medal: Mr. L. P. Pugh; Bronze medal: Mr. F. C. Scott.

RALLI PRIZES IN PRACTICAL SURGERY.—1st Prize: Mr. L. P. Pugh: 2nd Prize: Mr. E. Wallace; 3rd Prize: Mr. F. C. Scott.

Clinical Prizes.—Class A.—1st Prize: Mr. C. N. Thompson; 2nd Prize: Mr. C. R. A. Powell; 3rd Prize: Mr. H. L. Hobson.

Class B.—1st Prize: Mr. W. J. Leyshon; 2nd Prize: Mr. T. J. Margarson; 3rd Prize: Mr. A. Bakar.

Class C.—1st Prize: Mr. W. A. Williams, Mr. J. McCunn, *æq.*; 3rd Prize: Mr. B. Sayer.

Class D.—1st Prize: Mr. F. C. Scott; 2nd Prize: Mr. L. P. Pugh; 3rd Prize: Mr. E. Wallace.

Class Prizes.—Class A.—Chemistry and Toxicology—1st Prize: Mr. W. R. A. Watchorn: 2nd Prize: Mr. A. S. Canham; Practical Chemistry—1st Prize: Mr. A. S. Canham; 2nd Prize: Mr. R. W. A. Watchorn; Biology—1st Prize: Mr. R. W. A. Watchorn; 2nd Prize: Mr. H. L. Hobson; Minor Anatomy—1st Prize: Mr. W. R. A. Watchorn; 2nd Prize: Mr. C. N. Thompson.

Class B.—Anatomy—1st Prize: Mr. W. J. Leyshon; 2nd Prize: Mr. A. Bakar, Mr. T. J. Margarson, *æq.*; Physiology—1st Prize: Mr. W. J. Leyshon; 2nd Prize: Mr. J. R. Pratt; Histology—1s Prize: Mr. W. J. Leyshon; 2nd Prize: Mr. J. R. Pratt.

Class C.—Pathology—1st Prize: Mr. J. McCunn; 2nd Prize: Mr. W. A. Williams; Materia Medica—1st Prize: Mr. J. McCunn; 2nd Prize: Mr. W. A. Williams; Hygiene—1st Prize: Mr. W. A. Williams; 2nd Prize: Mr. J. McCunn.

Class D.—Veterinary Medicine—1st Prize: Mr. F. C. Scott; 2nd Prize: Mr. L. P. Pugh; Surgery—1st Prize: Mr. L. P. Pugh; 2nd Prize: Mr. F. C. Scott.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1917:—

D. Hamilton, Ballina	£1	1	0
F. T. Harvey, St. Columb	1	1	0
J. Littler, Oakham	1	1	0
Previously acknowledged	883	8	0
	£886	11	0

German use of Animal Diseases.

The following disclosures were made by Mr. Lansing concerning the plot against Roumania organised by the Germans. German diplomatic couriers, who were exempted by international privilege from the supervision of the Roumanian police, had conveyed from the German Consulate at Brasso, in Hungary, to the German Consulate at Bucharest boxes of infernal machines and tubes of bacilli.

"At eleven in the morning of Oct. 5, the Secretary of the American Legation and the Roumanian Prefect of Police went to the Legation, where the porter—a German who had been in the service of the Legation for over twenty years—said that a box and several cases had been buried in the garden. "At another spot in the garden, protected by a covering of firewood, was found a box bearing in red wax the German Consulate seal and the following direction:—

"By King's Messenger! Very secret! Not to be thrown!"

Bucharest.

For Herr Kostoff. To his Honour the Colonel Military Attaché to the Imperial Bulgarian Embassy at Bucharest, Herr Samargieff.

Beneath this first wrapper was a second, with the following direction:

"Very secret. By tele. to Royal Colonel and Military Attaché, his Honour Herr von . . .—the name had been rubbed out, but traces of the letters Ham . . . t . in were recognisable (Colonel von Hammerstein was the German Military Attaché).

Inside the box was a typewritten note in German to the following effect:

Herewith 4 (four) tubes for horses and 4 for horned cattle. For use as directed. Each tube is sufficient for 200 head. If possible, administer direct through the animal's mouth; if not, in its fodder. Should be obliged for a little report on success with you. If there should be good news to report, Herr K.'s presence here for a day desirable."

In six little wooden boxes were found test-tubes filled with yellowish liquid. These phials and the cartridges were then sent away to be reported on. The latter were found by the military laboratory to be high explosives with great destructive effect. The Institute of Bacteriology reported that the test-tubes contained glanders and anthrax bacilli of very virulent culture.—*Daily Telegraph.*

ARMY VETERINARY SERVICE

Extracts from *London Gazette*,

WAR OFFICE, WHITEHALL, Sept. 27.

REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Capt. W. Tully-Christie relinquishes his commn. on account of ill-health contracted on active service, and is granted the hon. rank of Capt. (Sept. 28).

Sept. 29.

Temp. Lieut. F. Morphy relinquishes his commn. on account of ill-health, and is granted the hon. rank of Lieut. (Sept. 8).

Oct. 4.

Temp. Capt. C. C. Clark relinquishes his commission on account of ill-health, and is granted the hon. rank of Capt. (Oct. 5).

The following casualty is reported :—

KILLED—Actg. Sgt. R. Boast, 4089 (Burton-on-Trent)

Personal.

WEST—EASTE. On Sept. 27, at St. Alban's, Westcliffe, by the Rev. C. H. Rogers, M.A., John E. West, F.R.A.M., F.R.C.O., son of the late William West and Madame Clara West, of Hackney, to Marion (Minnie), youngest daughter of the late William Easte, M.R.C.V.S., and Mrs. Easte, of Prince's Risborough, Bucks.

Mr. EDWARD MEASURES, M.R.C.V.S., of East Rudham, King's Lynn, gives notice that he has assumed the surname of Chatterton, and that in future he will be known by the name of EDWARD MEASURES CHATTERTON. The enrolment bears date 25 September, 1917.

OBITUARY.

D. I. HINGE, M.R.C.V.S., Heathfield House, Hale, Farnham, Surrey. Graduated, Lond: May, 1855.

Mr. Hinge died on the 13th Sept., 1916, Aged 85. He was Army V.S., 1st Class, and Hon. Inspecting V.S.

Adolf Von Baeyer

Professor Adolf von Baeyer, whose death in Munich was announced last month, was prominent among the founders of Germany's chemical industry. His early studies were devoted to the constitution of complex molecules, and much of our knowledge of the architecture of organic compounds is due to his brilliant investigations. His work, though at first of a purely scientific character, soon found industrial application, and a trade in synthetics was set up. His greatest achievement, perhaps, was the preparation of synthetic indigo, with naphthalene in one case and benzene in another as a starting point. The process, after the expenditure of very large sums of money, was acquired by the Badische Analin und Soda Fabrik at Ludwigshafen, which is quite distinct from the Farbenfabriken of F. Bayer & Co. at Elberfeld—also a very large concern. Adolf von Baeyer was born in Berlin in 1835, and was a pupil of Bunsen and Kekulé. In 1860 he became assistant professor in Berlin at the Technical college, then from 1872–1875 in Strassburg, and lastly the head of the university laboratory at Munich, the famous Liebig's chair.

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

Period.		Anthrax		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡		Sheep Scab.	Swine Fever.	
		Outbreaks (a)	Animals.	Outbreaks (a)	Animals.	Outbreaks (b)	Animals.	Outbreaks (b)	Animals.	(b)	Outbreaks (a)	Slaughtered. *
GT. BRITAIN. Week ended Sept. 22		6	6			1	1	18	24	4	18	9
Corresponding week in	1916 ...	8	8			1	3	11	22	6	60	29
	1915 ...	6	6					9	20	2	27	112
	1914 ...	9	12			2	17	4	4		94	598
Total for 39 weeks, 1917		348	396			22	36	1964	3761	404	1795	782
Corresponding period in	1916 ...	400	471	1	24	41	101	1758	3250	195	3536	8768
	1915 ...	442	503			36	68	632	1365	103	3163	13920
	1914 ...	557	612	22	108	81	249	1520	2642	155	3157	31068

‡ The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.
(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked :—London 1
Board of Agriculture and Fisheries. Oct. 2, 1917 Excluding outbreaks in army horses.

IRELAND. Week ended Sept. 29		...	...	...	...	...	...	Outbreaks ...	3	...	...	
Corresponding Week in	1916 ...	...	...	...	...	...	...	...	8	11	49	
	1915 ...	...	...	...	...	...	...	1	7	2	43	
	1914 ...	...	...	...	...	...	...	...	7	...	1	
Total for 39 weeks, 1917 ...		3	5	...	...	1	1	40	292	185	1079	
Corresponding period in	1916 ...	3	7	...	...	...	...	54	317	256	1681	
	1915 ...	1	1	...	...	1	3	58	314	193	1105	
	1914 ...	1	1	76	957	...	...	67	407	161	842	

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Oct. 1, 1917.
NOTE.—The figures for the Current Year are approximate only. * As diseased or Exposed to Infection